

MISCELLANEOUS.

On the Classification of the Gasteropodous Mollusca.

By M. GOURIET.

A DIVISION of the Gasteropoda founded on the generative organs presents this radical defect, that many species reputed to be hermaphrodite are constantly being found to be unisexual, and further that Mollusca evidently nearly allied, such as the *Helices* and *Cyclostomata*, are necessarily separated on the consideration of their sexual organs.

Therefore most authors have justly selected the respiratory apparatus as the basis of classification, since the position of this organ determines the position of the heart and generally that of the anus. In the classifications generally followed, such as that of Cuvier, however, orders are found to be established upon various characters of unequal importance although generally derived from the respiratory apparatus. Thus the Nudibranchs are generally characterized by their uncovered branchiæ, although with a restriction for the separation of the Inferobranchs, which are really also Nudibranchs. Elsewhere only the pectinated form of the organs is considered, as in the Pectinibranchs, although in other divisions, such as the Tectibranchs, this form of the branchiæ sometimes occurs. The term Tectibranch also conveys to the mind the same sense as Scutibranch. The expression Tubulibranch would seem to indicate a tubular form of the branchiæ, when it only refers to the tubular form of the animal. In the case of the Heteropoda the branchiæ are set aside, and a character of subordinate value, the form of the foot, is set on the same level as those of the preceding divisions. The word Cyclobranch would perhaps be the most suitable, but for the confusion between them and the Inferobranchs, if taken literally.

In fact, in the establishment of orders, the position and form of the branchiæ, the form of the foot, and the general form of the animal have all been placed in the same rank, without assigning to any one of them a marked preeminence over the others. To remedy this defect the author proposes, taking the respiratory apparatus as his basis, to select the most important of its characters, and to establish the primary divisions upon this. He considers the position of the branchiæ to furnish the most important character. The branchiæ can only occupy three positions: they are either

Completely external;

Or completely internal, and then concealed in a cavity which is itself covered by a shell which usually envelopes the animal;

Or simply protected by an imperfect test, a condition intermediate between the two preceding.

Hence, after the separation of the Pulmonata as a distinct subclass, we get three great divisions,—the Exobranchs, the Stegibranchs, and the Endobranchs.

I. The order of EXOBRANCHS may be subdivided, according to the point of the surface upon which the branchiæ are inserted, into—

1. *Epibranchs*, which have them on the back (*Doris*, *Glabellina*, &c.).
2. *Peribranchs*, which have them round the mantle (*Tritonia*, *Glaucus*, *Scyllæa*, *Plocamocera*, &c.). The *Eolidæ* would be allied to both the Epibranchs and Peribranchs.
3. *Hypobranchs* (the Inferobranchs of Cuvier). The *Thetydes* would approximate all three Orders.
4. *Pleurobranchs*, which have the branchiæ on the side (*Pleurobranchus*, *Pleurobranchidium*, *Laniogera*, &c.). The Pleurobranchs lead both to the Stegibranchs by their small test, and to the bulk of the Endobranchs by the pectinated form of the branchiæ.

II. The order of STEGIBRANCHS (στέγη, a roof) would include four divisions :—

1. *Stegibranchs* proper, corresponding to the Tectibranchs of Cuvier (without the Pleurobranchs) and to the Scutibranchs of the same author.
2. *Cyclobranchs*, corresponding with Cuvier's group.
3. *Heteropod Stegibranchs* (Heteropoda of Cuvier), which, if we take *Carinaria* as the type, have the heart and branchiæ within a small shell. The shellless Heteropoda must be left with *Carinaria*.
4. The *Ianthinæ*, which have their branchial laminae half concealed by the shell, and which, like the Heteropoda, deserve to be separated on account of their curious appendage. Their pectinated branchiæ also form a transition from the Stegibranchs to the Endobranchs.

III. The order of ENDOBRANCHS would correspond with the Pectinibranchs and Tubulibranchs of Cuvier. They may be divided into *Turbinata* and *Tubulata*.

1. The *Turbinata* (the old Pectinibranchs) might retain the old Cuvierian subdivisions, or the much more natural division of De Blainville into Siphonobranchs and Asiphonobranchs.
2. The *Tubulata* are the old Tubulibranchs.

Comptes Rendus, Nov. 16, 1863, p. 826.

Fucus anceps, Ward & Harvey.

"Notwithstanding all that has been said *pro* and *con*, I have now to inform you that the Kilkee *Fucus* is neither *F. distichus* nor yet *F. fuscatus*, nor yet any species known to Prof. Agardh, from whom I have just received a specimen of the true *F. distichus* of the elder Agardh; and so, being constrained to give it a name, I propose to call it *Fucus anceps*, Ward & Harvey; and I request you to make known this *alias* to all to whom you have (on my authority) given the wrong name. This *Fucus* seems to combine the characters of the ribbed and ribless species, and therefore it may with propriety be named *F. anceps*."—Prof. J. H. HARVEY to Dr. Gray, Dec. 26, 1863.